

An architectural drawing of a dome, likely the dome of the U.S. Capitol. The drawing is split vertically. The left half shows an elevation of the dome's exterior, including the base with columns and steps. The right half shows a cross-section of the dome, revealing the internal structure, including a spiral staircase and various levels. The title 'A BLUEPRINT FOR PROSPERITY AND JOBS' is overlaid in the center in a large, blue, serif font. At the bottom, there are labels for different parts of the drawing: 'ONE HALF ELEVATION OF DOME' on the left, 'DEVELOPED ELEVATION OF NICHE' and 'SECTION C-C' in the middle, and 'SECTION B' on the right. A note at the bottom center reads: 'NOTE: FOR DETAILS OF STONE WORK, BELOW THIS LINE, SEE DRAWINGS NO. 89101 - 89103'.

A BLUEPRINT FOR PROSPERITY AND JOBS

ONE HALF ELEVATION OF DOME

DEVELOPED ELEVATION
OF NICHE

SECTION C-C'

IRON PLATEFORM HERE CONTIGUOUS LANDING STAIR

NOTE: FOR DETAILS OF STONE WORK, BELOW
THIS LINE, SEE DRAWINGS NO. 89101 - 89103

SECTION B

In Appreciation

This report was made possible through financial support from the Missouri Development Finance Board. The Board's assistance was given in the interest of discovering new long-term growth strategies for Missouri communities.

Missouri Development Finance Board

Elizabeth T. Solberg, Chair

John Starr, Vice Chairman

Thomas P. Rackers, Immediate-Past Chair

Robert V. Miserez, Executive Director



Jefferson City, Missouri
January 2003

A BLUEPRINT FOR PROSPERITY AND JOBS

PREPARED FOR:
THE MISSOURI DEPARTMENT OF
ECONOMIC DEVELOPMENT

January 2003

DEVELOPMENT STRATEGIES®

Acknowledgements

“A Blueprint for Prosperity and Jobs” was prepared at the direction of Governor Bob Holden by the Missouri Department of Economic Development. The report contains the views of hundreds of Missourians who shared their suggestions for building a better future for our state. The Department gratefully acknowledges all who participated at one or more of the following meetings for their meaningful contribution without which this report would not have been possible.

Governor's 21st Century Economy Summit: The Prosperity Dialogue

University of Missouri-Columbia

April 27, 2001

Governor Holden's Life Sciences Roundtable

Lincoln University, Jefferson City, Missouri

July 19, 2001

Governor Holden's Advanced Manufacturing Roundtable

The Boeing Company, St. Louis, Missouri

August 13, 2001

Governor Holden's Information Technology Roundtable

University of Missouri-Kansas City Law School

August 14, 2001

Governor Holden's Advanced Manufacturing Roundtable

Ranken Technical College, St. Louis, Missouri

October 24, 2001

Governor Holden's Information Technology Roundtable

Cerner Corporation, Kansas City, Missouri

November 1, 2001

St. Louis Regional Dialogue

Ranken Technical College, St. Louis, Missouri

October 24, 2001

Northwest Regional Dialogue

Pony Express Museum, St. Joseph, Missouri

October 25, 2001

Southwest Regional Dialogue

Island Green Golf Club, Republic, Missouri

October 30, 2001

Kansas City Regional Dialogue

North Kansas City Hospital, Kansas City, Missouri

November 1, 2001

Southeast Regional Dialogue

Sikeston Area Higher Education Center, Sikeston, Missouri

November 13, 2001

Northeast Regional Dialogue

Truman State University, Kirksville, Missouri

December 13, 2001

*A list of those who participated in these meetings may be found at the end of this report.
Our apologies to anyone we may have inadvertently omitted.*



Bob Holden
Governor

Joseph L. Driskill
Director

January 15, 2003

The Honorable Bob Holden
Office of the Governor
State Capitol
Jefferson City, MO 65102-0720

Dear Governor Holden:

I am pleased to submit "*A Blueprint for Prosperity and Jobs*" for your review. The report is an analysis of the challenges and opportunities that face Missourians in coming years as we consider new ways to ensure economic prosperity. The report is also a comprehensive, strategic plan that presents a compelling case for a new direction in Missouri's efforts to foster and sustain meaningful job growth, business success and community vitality. The report builds a case for action based on a series of risk categories that were identified by hundreds of Missourians who shared their thoughts and guidance over the past 22 months. As our state continues to transition from an economy based on traditional industries and jobs to one that will be increasingly challenged by global competition for growth, I am confident this report will serve the State of Missouri well.

"*A Blueprint for Prosperity and Jobs*" is the culmination of a series of efforts that began with your Economic Prosperity Summit in April 2001. Since that time our department has gathered input and recommendations from business and community leaders, educators and citizens from across Missouri. A series of roundtable discussions were held with leaders from three vital industries that hold promise for long-term growth: life sciences, advanced manufacturing, and information technology. Additional insight was contributed through six Regional Dialogue meetings held across the state. With the assistance of Development Strategies, Inc., key leaders from all parts of the state were also interviewed in an effort to gain more in-depth guidance. Development Strategies summarized the information that was gathered and applied further research and analysis in completing this report.

I look forward to working with you and our public and private sector partners to develop strategies for achieving the goals outlined in the report. Thank you for your continued leadership in developing a new economic vision that will ensure prosperity and jobs for Missouri's future.

Very truly yours,

A handwritten signature in black ink that reads "Joseph L. Driskill". The signature is fluid and cursive, with a large, stylized "J" and "D".

Joseph L. Driskill

JLD:tlm

DEVELOPMENT STRATEGIES®

CONSULTANTS IN REAL ESTATE, COMMUNITY, AND ECONOMIC DEVELOPMENT
REAL ESTATE APPRAISAL

January 2003

Mr. Joseph L. Driskill
Director, Missouri Dept. of Economic
Development

Dear Mr. Driskill:

We are pleased to submit *A Blueprint for Prosperity and Jobs*. The *Blueprint* was developed as part of the Governor's Economic Prosperity Initiative and reflects the thoughts and ideas of people across the state of Missouri.

The Economic Prosperity Initiative is a broad-ranging effort launched by Governor Holden in the Spring of 2001. This report incorporates the thoughts and suggestions expressed at many public sessions held as part of the Initiative; our own professional insights and experiences, as well as those of the staff of the Department of Economic Development; and the opinions of experts as presented in interviews and reports. All of this input is drawn together to build this economic development strategy for Missouri.

The priorities for economic prosperity presented in this report are intended as a framework for more specific actions and programs to be undertaken by a variety of state agencies and organizations, including the Department of Economic Development. The alignment of state actions on a set of shared strategies will further enhance the potential of the state to form effective alliances across the state's various regions, advancing the economic development of the state as a whole.

Development Strategies has been privileged to work with Governor Holden and the Department of Economic Development to present this economic strategy for Missouri. We are confident that this *Blueprint* can help guide the state as it seeks to capitalize on its many advantages and set a course for prosperity in the new economy.

Sincerely,

Richard C. Ward, CRE AICP CECd
Senior Principal

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FOREWORD

This report was developed as part of Governor Bob Holden's Economic Prosperity Initiative, and reflects the thoughts and ideas of people across the state of Missouri.

The Economic Prosperity Initiative is a broad-ranging effort launched by Governor Holden in the Spring of 2001. The Initiative's goal is to produce measurable economic results for the people of Missouri by focusing the activities of government around outcomes that enable more prosperous families, communities and businesses. As part of the initiative, the Department of Economic Development hosted many meetings to gather public input, including a statewide summit with civic leaders, regional dialogue sessions in all parts of the state, and a series of industry roundtables in three key industry clusters (life sciences, advanced manufacturing, and information technology).

This report takes the many thoughts and suggestions expressed at these Economic Prosperity Initiative sessions, and adds the professional insights and experiences of the staff of the Department of Economic Development along with its consultants, Development Strategies, and the opinions of experts as presented in interviews and reports, and synthesizes them as an economic strategy for all of Missouri. The report is not limited to strictly "economic development" disciplines, because the people of Missouri did not limit their discussion to these topics. Their ideas for achieving economic prosperity included issues related to quality of life, education and training, and infrastructure, as well as traditional economic development areas such as adding jobs and businesses.

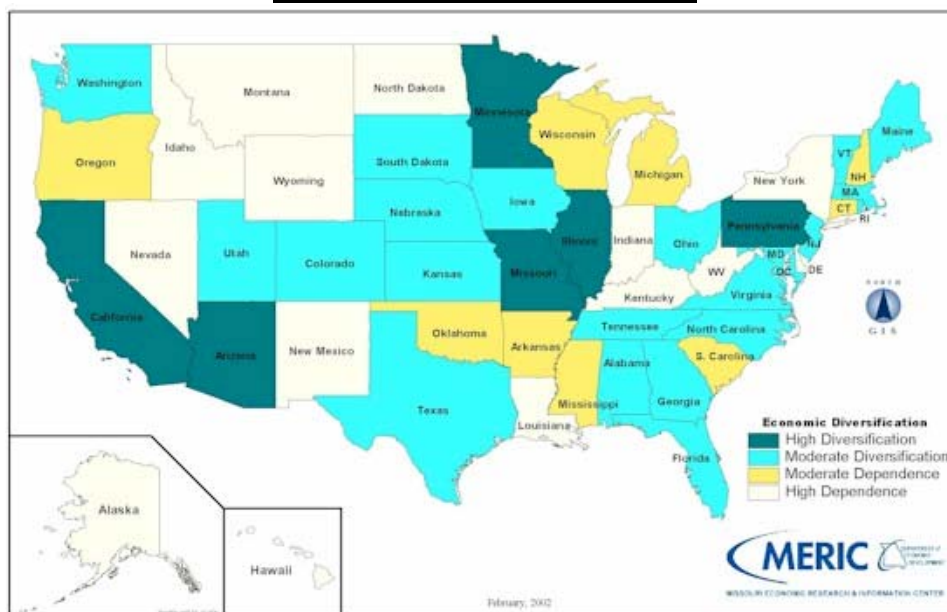
Development Strategies has been privileged to work with Governor Holden and the Missouri Department of Economic Development to present this economic strategy for Missouri.

MISSOURI'S CHALLENGE

The “Show Me State.” Proudly stubborn and skeptical, we stand by our convictions and hold a steady course. Missourians prefer to stick with the tried and true and are not readily taken in by the latest hoopla.

This approach has given the state a very stable economy over the long-term, one that closely mirrors that of the nation as a whole¹ and one with few high peaks or deep valleys.

Economic Diversification, 1999



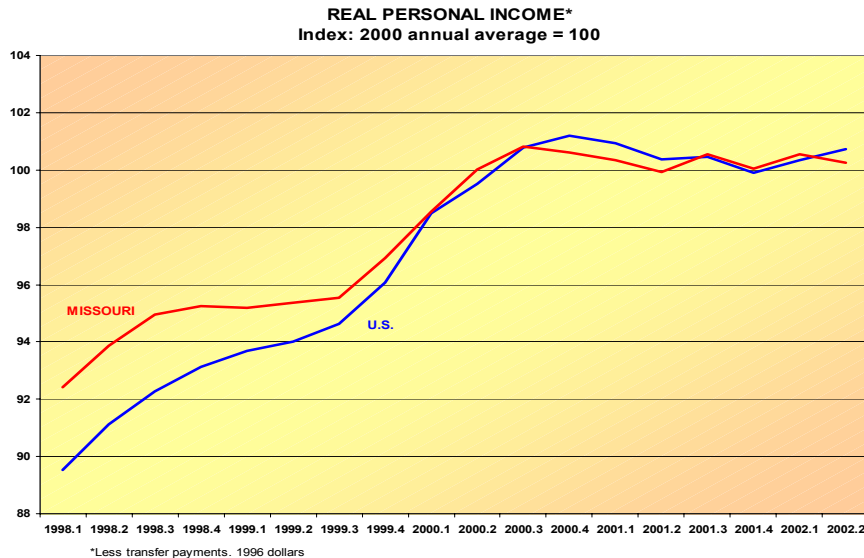
Relative to other states, Missouri consistently ranks near the middle of the range on most important economic measures. We have a reasonably good quality of life in most parts of the state and don't attract much attention from the outside – which is pretty much how we have tended to like it.

The problem is, what's tried and true today may not be successful in the world of tomorrow. Unfortunately, we won't be able to continue sitting comfortably in the middle of the pack – we will either advance or fall behind. Other states that are less complacent than Missouri will compete vigorously with us to capture new economic growth in the coming decades, and we will either rise against them or we will lose ground.

¹ For additional discussion, see Missouri Economic Research and Information Center (MERIC), Economic Diversification and Comparative Advantage: A Report on Gross State Product in 1999, February 2002.

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We are starting from a strong base, so decline, if it comes, will come slowly – so slowly, in fact, that we might not see it until it's too late. Indeed, the early warning signs are here already, though perhaps not felt yet – Missouri is starting to see personal income levels declining relative to the nation.²



Source: MERIC

But economic decline doesn't have to come at all, if we make the right decisions today.

The Risk: Old/Confused Approaches to a New Economy

Missouri is not equipped to compete effectively in a global economy. Relative prosperity has led to a dilution of Missouri's economic development efforts across too many areas, as the "tried and true" programs have been supplemented – but not replaced – with new efforts. Furthermore, the state's past economic development policy has been strongly incentive-driven, which is an approach that requires sufficient available fiscal resources. Over time, the pressure to do and be too many things for too many people has led to shortfalls in critical investment areas. These areas are:

- Economic opportunities for individuals (good jobs and entrepreneurial opportunities)
- Quality of life
- Education and workforce development

² MERIC, Update: A Report on Missouri's Economic Condition, April 2002.

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- Research capacity and technology transfer
- Infrastructure

The dilution of economic development efforts has corresponded with the full emergence of a new economy in the nation and the world. This rather overused phrase does not refer to just a few high-tech industries, but to a paradigm shift across all industries. Business success is not primarily a factor of low costs (taxes, raw materials, labor, etc.) anymore – it is about increasing productivity in all sectors and industries through the application of advanced technology and deployment of an increasingly skilled and creative workforce; it is about rapid business change to respond to and anticipate changes in the external environment.

As globalization continues to change the very climate in which all businesses operate, the pressure on Missouri businesses from international competitors – and from domestic competitors that take better advantage of the new global markets – will increase. This growing pressure makes the factors mentioned above all the more important.

Economic development must respond with its own changes – it cannot be just about attracting businesses from out of state (“chasing smokestacks”) or simply increasing the number of new jobs without regard to the quality of those jobs. **Statewide economic development must focus on strengthening the foundations of the new economy. And this approach requires a new strategic focus and a new set of tools.** It will also require leaving behind some of the old answers that Missouri holds dear.

A Grim Prospect

The states of our nation are in competition with each other as well as other nations. If Missouri fails to establish a sound foundation for new economic growth, that growth will pass us by. It will go to other states that have invested more effectively in their people, their research capability, their quality of life, and their infrastructure.

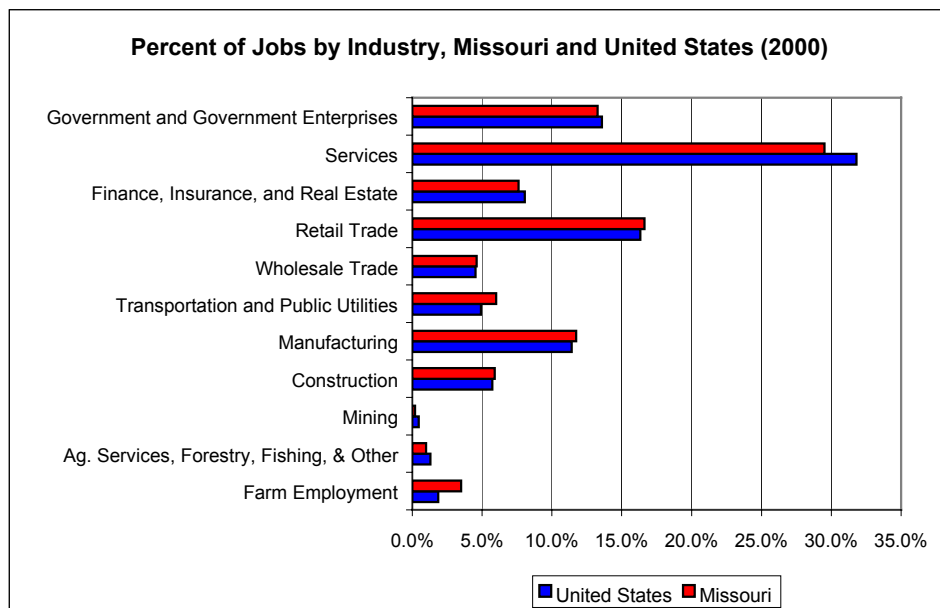
Meanwhile, all Missourians will feel the impact of the shift of growth away from the state. It will be harder to find good jobs, and harder to gain the skills needed to hold them; this feedback loop will accelerate the decline. Young people will feel the pressure to look elsewhere for opportunities, to build their careers and raise their own families in more hospitable locales. Promising new businesses will hit a wall when seeking to grow and expand here, as they search without success for capital sources and other resources to feed their growth. They, too, will look to other states to continue their progress. Our traditional corporate mainstays

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– manufacturing companies, financial services companies, agriculture and agribusiness, and others – will find themselves isolated in a state with little or no growth. The new technology they need to stay competitive will not be generated here, and it will be harder and harder to find workers with the necessary skills.

Building on Strength

Awakening to the challenges faced by the state should not be taken as a cry of “gloom and doom,” nor should it make us forget Missouri’s strengths – the base on which the state must build for tomorrow. As noted earlier, Missouri’s economy is remarkably similar to that of the nation as a whole in terms of the diversity of industries and employment here. We are a microcosm of the country and enjoy real stability as a result.



Source: Bureau of Economic Analysis

Manufacturing, in particular, has continued to be a major component of the state’s economy even as it has declined dramatically elsewhere. This importance can be seen as both a strength and a weakness, as the national trend in manufacturing employment is clearly downward. We also possess the key ingredients for success in new industries such as plant and life sciences – research capacity, corporate leaders in the industry, and an agricultural base that can serve as a living laboratory for new technologies.

We are actually located at the nation’s crossroads, close to markets and population centers throughout the country. This strategic position offers opportunities in a variety of areas, such as distribution and regional tourism. We have an excellent workforce, albeit one more oriented

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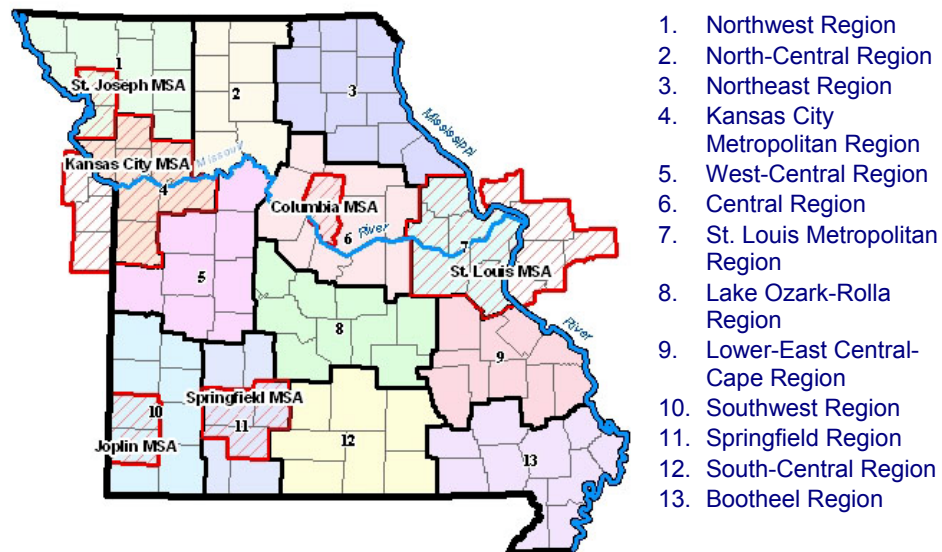
toward “old” than new economy, whose skills and work ethic are recognized and appreciated by the global companies doing business in the state.

The continuing force of Missouri’s strengths, however, is threatened by the factors discussed below. Old economy strengths must be expanded and augmented for a new world.

One Missouri, Many Distinct Missouri Regions

It is actually hard to tell the story about the Missouri economy because there are so many stories – distinctly different economic regions with their own strengths, weaknesses, opportunities, and threats. Some of these economic regions extend well beyond the state’s boundaries. States are not fundamentally economic entities; they are political entities fueled by the regional economies within them.

In Missouri, the regional differences and divisions are more pronounced than in most states. Missouri’s two major metropolitan areas, St. Louis and Kansas City, straddle the state’s border on opposite ends of the state; historically, one has looked east and the other west for its identity. On its east-west axis, Missouri is divided by the mighty Missouri River, which cuts the state into geographically and historically distinct halves: the northern crop land, and the hills, forests, and pasture lands of the Ozarks to the south. Within these halves are many more distinctions – economic, cultural, and physical.



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The result is a patchwork of economies and cultures that too often is rent by factional bickering over priorities and resources. **Instead of becoming more than the sum of its parts, Missouri becomes less.** Rural interests differ from urban ones, and St. Louis and Kansas City differ from each other. Expanding suburban areas across the state, heady with their current success, think little beyond their own immediate issues. The result is, at best, a zero-sum game with Missouri as a whole the ultimate loser.

Rather than seeking a “one size fits all” answer to economic development, Missouri must embrace regional strategies to promote the distinct advantages of each region. This approach will be the most effective way to strengthen the whole. For their part, regions must work responsibly to identify those priorities for which they need the state’s assistance – not try to gobble up all they can at the expense of other regions. At the same time, all regions need to work together to build the resources and common identity to allow Missouri to pursue a clear, new course for the new economy, and to support investment and progress in different parts of the state.

MISSOURI AT RISK³

Economic prosperity depends on a set of conditions that is much broader than the traditional “economic development” realm of attracting businesses and jobs. A number of closely interrelated factors come into play. An excellent education and workforce development system, attractive economic opportunities for individuals and businesses, a high quality of life for residents, strong research capacity at the state’s universities and companies coupled with successful commercialization of new technologies, and infrastructure to support the needs of residents and businesses – all are essential components of economic growth and success.

Unfortunately, Missouri does not shine in all of these areas, although there are elements of strength within each. This section points to some of the state’s limitations that must be addressed. While there are clearly many assets as well, the focus of this section is the critical shortfalls that threaten the future prosperity of the state.

1. ***Education and Workforce Development***

Missouri must invest in its people and enhance opportunities for its people to invest in themselves, starting with quality K-12 education and on up the line through both vocational programs and Ph.D. programs, as well as lifelong opportunities for skill improvement.

Of all possible investments, education is really the best bet, even a sure thing: investment in the education infrastructure today *will* lead to a stronger Missouri tomorrow. Education – basic competencies, workforce development and higher education – are critical pieces of economic development in the 21st century. We need to prepare our people for the new economy. The education infrastructure is also an essential component of quality of life and providing opportunities for economic success, discussed further below.

The state needs to do more to ensure the quality of primary and secondary schools in the state. The school districts of Kansas City and St. Louis City and some of their older suburbs are in crisis, and many rural school districts fail to deliver what children need. Further, there is still too little emphasis on the real world skills that employers need in nearly all of the

³ Inspired by the 1983 report, A Nation At Risk, which forcefully documented the failure of the U.S. education system and the potential consequences of that failure. The report was an effective call to action and inspired reform in all 50 states within three years of its publication.

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state's school districts. A strong public school system is also necessary to attract and keep families in Missouri.

Higher education, which is funded through the state's general revenue fund, has not fared well in the last year, suffering the deepest budget cuts of any area as general revenue itself has suffered significant cuts. These cuts to higher education will increase the barriers to post-secondary education for lower income individuals, and threaten the quality of the education that Missourians can obtain at our public institutions. Missouri schools will not be able to attract the "best and brightest" students and faculty if the current situation continues; more and more talent will leave the state, and the remaining workforce will be weakened.

Higher education is also absolutely critical when talking about research, discussed further below.

Apart from the funding issues, Missouri's post-secondary institutions, as with K-12 systems, need to be more responsive to the needs of the business community. Workforce development efforts at all levels need improved policy and service coordination with the private sector, and must be strengthened to serve people at all stages of their lives and careers.

Workforce is the primary issue for most businesses today in determining where they can locate and compete. If Missouri's education system does not improve, the state's workforce – which is strong today – will not have the skills to satisfy the needs and demands of new economy employers.

Indicators of Risk

Poor student performance

- Missouri students lag the national averages on four of six National Assessment of Educational Progress (NAEP) tests in fourth and eighth grade (Southern Growth Policy Board, 2002). While the disparities are not large in most cases, the overall picture is a cause for concern.
- Only 10 percent of Missouri's 10th graders met the minimum requirements to be proficient on the Math and Science MAP exams in 2001 (Department of Elementary and Secondary Education, 2001).
- Missouri had the 16th highest high school drop-out rate among all states, with 4.8 percent of students failing to complete high school in 1999 (MQ, 2002⁴).

⁴ This abbreviation refers to State Rankings 2002: A Statistical View of the 50 United States. Lawrence, KS: Morgan Quitno Press, 2002.

Too few students pursuing or completing advanced degrees

- 25 percent of freshmen entering a four-year college or university and 40 percent of freshmen entering a two-year college or university in Missouri drop out before their sophomore year (MCBHE 2002⁵).
- Missouri ranked 33rd with respect to the percentage of the population that had graduated from college in 2000 (MQ 2002). Only 21.6 percent of the population possessed a post-secondary degree in 2000 (U.S. Census).
- Missouri falls behind the national average in college enrollment of both traditional and nontraditional students. In Missouri, 36 percent of high school students enrolled in college in any state in 1998, and 30 percent of those aged 18 to 24 were enrolled in college. Contrast these figures with the average for the top five states (Iowa, Massachusetts, Nebraska, New Jersey, and North Dakota), where 54 percent of high school students go on to college and 42 percent of 18 to 24 year olds are enrolled (MCBHE 2002).
- Missouri's minority groups are not participating in higher education in numbers equal to their share of the total population. In the 2000-2001 academic year, African-American students accounted for only 10.3 percent of students, which is 92 percent of the goal of 11.2 percent (the percentage of African-Americans in the population); more seriously, they received only 9.3 percent of the degrees conferred, which is just 83 percent of the goal (MCBHE 2002).
- The percentage of students receiving a baccalaureate degree who had transferred from a two-year institution increased from 16.1 percent in 1996-97 to 18.6 percent in 2000-01. This is an encouraging trend, but cuts to higher education funding threaten to reverse it (MCBHE 2002).

Expensive for students

- The average in-state tuition and fees for Missouri students at the state's four-year institutions in the 1999-2000 academic year was \$3,701, which was 16.5 percent of per capita disposable income. For two-year institutions, the figure was \$1,443, or 6.4 percent of per capita disposable income. In the nation as a whole, the comparable figures were \$3,351 (13.8 percent of per capita disposable income) and \$1,336 (5.5 percent per capita income) (MCBHE 2002).
- The average tuition for Missouri students at public higher education institutions was 10.7 percent of the poverty threshold in the 1999-2000 academic year. This percentage is eight percent higher than the national average of 9.9 percent (MCBHE 2002).
- **65 percent of those students eligible for student aid based on income levels went unfunded due to a lack of financial aid funds in**

⁵ This abbreviation refers to the Missouri Coordinating Board for Higher Education's Striving for Excellence: A Report on Missouri's System of Higher Education. March 2002.

the 2000-2001 academic year. The state provided \$16.5 million for the need-based aid program; an additional \$28 million would have been needed to fund all who qualified (MCBHE 2002).

Little support for education

- Missouri's per capita state and local government expenditures for all education in 1999 ranked 42nd. Among the states spending more than Missouri are Mississippi, Louisiana, and Oklahoma (MQ 2002).
- Missouri ranked 38th in per capita state and local government expenditures for elementary and secondary education and 39th in total expenditures per pupil. Missouri's per capita expenditure in 1999 was \$1,100, or almost 12 percent less than the national average of \$1,246. Total expenditures per pupil in Missouri were \$6,003, or more than 15 percent less than the national average of \$7,079 (MQ 2002).
- Missouri ranked 39th in per capita state and local government expenditures for higher education. Missouri's per capita expenditure in 1999 was \$393 or almost 13 percent below the national average of \$450 (MQ 2002). With the recent budget cuts for higher education, the state's ranking will drop substantially.
- As a share of state per capita personal income, per capita education expenditures in Missouri were \$1,474 in 1998, lagging both the southern states as a whole (\$1,482) and the nation (\$1,666) (Mercedes and Magnolia 2002).
- Missouri ranked 21st with respect to average student costs at public institutions of higher education, with average costs of \$8,185 – one percent less than the national average of \$8,265 (MQ 2002). However, when these figures are adjusted to reflect Missouri's lower cost of living, Missouri students actually pay nearly seven percent more than the national average.

Need better support and training for teachers

- Missouri ranked 34th in average teacher salary; at \$36,764, teachers earn more than 14 percent less than the national average of \$42,898 (MQ 2002). Even adjusting for Missouri's lower than average cost of living, Missouri teachers earn almost eight percent less than their colleagues overall (\$28,146 in 2000 and \$29,230 in 2001).
- Almost 50 percent of K-12 teachers have an advanced degree. While this trend is positive, Missouri still needs to work harder to raise the level of training among its teachers – particularly in urban and rural areas, where training levels are substantially lower than the balance of the state (Missouri Department of Elementary and Secondary Education, 2002)

Encouraging signs

- Missouri had the 37th lowest (that is, the 14th best) pupil-teacher ratio among the states in public elementary and secondary schools in 2001,

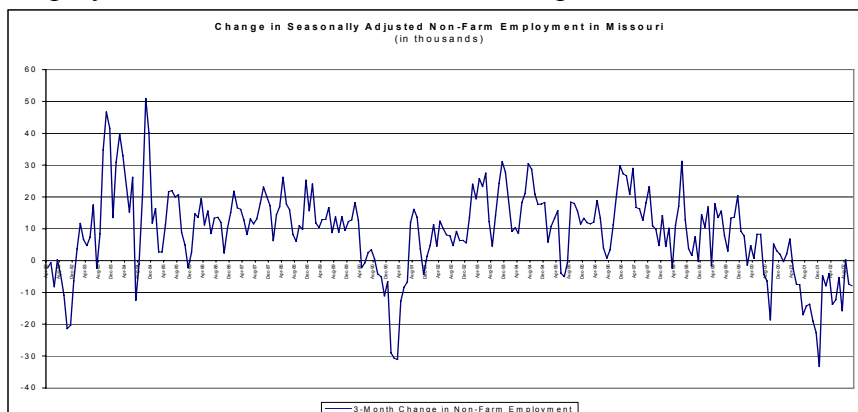
with 14.0 students per teacher (MQ 2002). This ratio and ranking indicate progress in Missouri: according to Missouri's Department of Elementary and Secondary Education, the state had ratios of 15.9 students per classroom teacher in 2001 and 16.3 students per classroom teacher in 2000. Furthermore, Missouri's pupil-teacher ratio is better than the national average of 16.0 students per teacher. This improvement will yield results, though it will take time. In the meantime, we can still do more to improve the classroom environment for children.

- There were approximately 5.8 students per Internet-connected computer in 2002, which is a better number than the national average of 6.8 students (Southern Growth Policies Board, 2002). However, there are still large disparities among school districts.

2. ***Economic Opportunities for Individuals***

Missouri must provide attractive economic opportunities for its citizens, including good jobs for workers at all skill levels, high impact possibilities for those at the top of the skill continuum, and opportunities for those with new business ideas to pursue.

Missouri has been hit hard in the recent recession, with the fourth fastest rate of job loss among all states in the nation between August 2001 and August 2002.⁶ The following chart shows the change in non-farm employment in Missouri over time for the past two decades.



* Quarterly performance from first quarter 1982 to third quarter 2002.

Source: MERIC

It is not enough to rely on Missouri's strong "mainstay" industries – manufacturing, agriculture, financial services, and tourism – to provide good opportunities for all of tomorrow's workers. With the right support, these industries will continue to be strong and grow, providing a large

⁶ MERIC

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number of new economy jobs within the state. However, Missouri also needs to provide support to help knowledge-based industries – such as life sciences, information technology, and advanced manufacturing – to thrive in order to project an image of progress and create a “critical mass” of good jobs.

A key component of support for newer industries will be for new ventures with high growth potential – in all industries. The culture implied by the “Show Me” label does not promote nor suggest an entrepreneurial climate. Developing entrepreneurial capacity will depend in large part on the strength of the educational system to provide both a higher quality managerial workforce and a skilled (as well as flexible, creative, adaptable, and open to innovation) labor pool. Availability of venture funding (which has until recently been a major obstacle in the risk-averse Missouri culture) and supports such as incubators will also be critical.

A growing number of successful new companies in Missouri will eventually help to create a more progressive business culture that is open to newcomers and provides opportunities for advancement.

Only success changes perceptions in a positive direction. We need to create the conditions where new businesses can thrive. In doing so, we will also create the opportunities that current Missouri residents need for economic success, and that will draw potential Missouri residents to the state.

Indicators of Risk

Middling performance on “knowledge jobs”

Missouri ranks 23rd overall in “knowledge jobs,” according to the State New Economy Index (2002). The state is relatively strong in information technology jobs (18th). With 1.7 percent of jobs in IT, Missouri is right at the national average (24th, with a composite score of 50.4 against the national average of 49.2) – but not much stronger than average. Missouri is considerably weaker in managerial, professional, and technical jobs (29th, with 25.2 percent of jobs held by managers, professionals and technicians against the national average of 26.5 percent), and in the education level of the manufacturing workforce (40th, with a composite score of 0.67 against the national average of 1.00) (State New Economy Index 2002).

Innovative businesses?

- The rankings for economic dynamism are a bright spot for Missouri, which comes in at 14th. The state ranks 17th for “gazelle jobs,” or jobs in fast-growing companies, as a percentage of total employment, and

10th for initial public offerings. On the other hand, Missouri ranks at just 30th for “job churning,” which describes business start-ups and failures as a percentage of all establishments and is an important driver of innovation in the economy (State New Economy Index 2002).

- However, Missouri businesses received just 1.4 Small Business Innovation Research (SBIR) awards per 10,000 business establishments, significantly below the national average of 6.5 awards (Southern Growth Policy Board, 2002).

Slow to globalize

- In a measurement of globalization, Missouri is one of the weaker performers (38th overall). The state ranks 38th in terms of adjusted manufacturing export sales per manufacturing worker (\$21,252 versus a national average of \$42,913), and 32nd in terms of foreign direct investment, with 3.7 percent of the workforce employed by foreign companies versus a national average of 4.7 percent (State New Economy Index 2002).
- Foreign investment per capita in Missouri is \$2,783, versus \$3,641 in the nation as a whole (Southern Growth Policy Board, 2002).

Sluggish performance of high tech industries

- Furthermore, Missouri lost 470 high tech jobs in 2001, or 0.5 percent, in contrast with gaining 10,900 high tech jobs in 2000. The nation as a whole gained one percent in high tech jobs during the same period (Cyberstates 2002).
- Missouri lags behind the nation in terms of technology-intensive employment (8.5 percent of all jobs) and establishments (4.3 percent of all establishments). The national figures are 8.8 percent and 5.7 percent, respectively (Southern Growth Policy Board, 2002).
- Electronics represented nine percent of the value of Missouri’s exports in 2001, but this represented a drop of \$160 million, or 22 percent, in high tech exports between 2000 and 2001. In the nation as a whole, high tech exports fell 15 percent from \$223 billion in 2000 to \$189 billion in 2001. In other words, while the entire industry suffered in 2001, Missouri had more than its share of losses (Cyberstates 2002).

Slow additions, fast subtractions in the number of Missouri companies

- Missouri ranked 21st in new business incorporations and 35th in the percentage change in new business incorporation with a growth rate of 11.0 percent (MQ 2002).
- Missouri ranked 16th in the greatest number of business failures and had the 20th highest business failure rate with 13.0 percent of employer firms terminating (MQ 2002). While this measure could be seen as positive, in light of the job churning issue noted above, it is only positive when balanced with an equal level of new business formation.

- Missouri ranked dead last in job growth among the 50 states between 2000 and 2001, with a negative two percent change in non-farm jobs, versus a national rate of negative 0.4 percent (MQ 2002).

Lower wages, in spite of lower unemployment

- Missouri ranked 29th in per capita personal income and 29th in per capita income growth from 1999 to 2000 (Bureau of Economic Analysis, MQ 2002). Per capita income was \$27,206 and the per capita income growth rate was 5.1 percent. In 2001, per capita income was \$28,029, up at the slower rate of 3.0 percent.
- High tech workers earned an average wage of \$51,700 in comparison with an average private sector wage of approximately \$31,500. This wage puts Missouri at 30th among the states (Cyberstates 2002).
- Missouri ranked 21st in unemployment rate in 2001. The unemployment rate, 4.7 percent, was just below the national rate of 4.8 percent (MQ 2002).

3. Quality of Life

Along with economic opportunities, we must provide the environment, or quality of life, to attract and keep the “knowledge workers” who drive the new economy – to the benefit of all Missouri.

Knowledge workers⁷ will choose where to live based on economic opportunities and quality of life factors. This is the fundamental premise for this discussion: that we are talking about a mobile workforce that makes choices, and that people will be the foundation for all future growth. If we want to succeed in the new economy, we need to become more attractive to these workers – for the sake of the state as a whole. For this reason, quality of life must be at the head of the agenda in order to attract and keep talent. We need to focus on attracting and keeping *people* – those who both create and fill jobs, rather than simply keeping jobs.

The following illustration shows the outflow of high-tech workers from Missouri to one other region – Austin, Texas – that is widely recognized for its attractiveness to the next generation of workers.

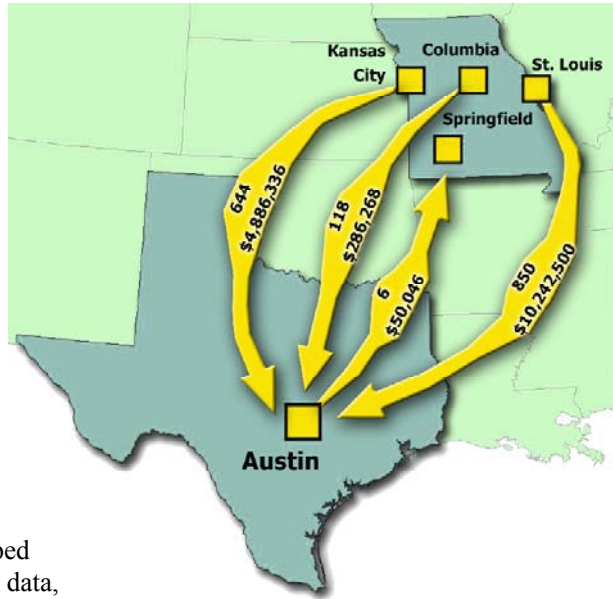
⁷ For discussion of the importance of this group of workers and their preferences, see *Quality of Place and the New Economy*, Richard Florida; *Knowledge-Value Cities in the Digital Age*, Milken Institute (February 2001); and *Preparing St. Louis for Leadership in the 21st Century Economy*, Focus St. Louis (August 2002).

Attracting High-Tech Companies

“These new cities are building their economies by importing creative, knowledgeable workers, largely from other urban regions.”

Barton Smith, Economist
University of Houston

Source: MERIC graphic, developed
from Austin American-Statesman data,
1992 - 2000



Continuing outmigration of talent reflects a combination of quality of life shortfalls and inadequate work opportunities in Missouri versus the positive attraction of these factors in places such as Austin. Quality of life is a “soft” concept that includes many factors, such as:

- Quality of community: neighborhoods, towns, civic life
- Culture/amenities: recreational opportunities (parks and trails, hunting and fishing, public facilities), entertainment (sports, museums, performances)
- A clean environment
- Quality/affordable housing (in a variety of settings – historic, new, urban, suburban, rural)
- Quality of “places,” both rural and urban
- Easy/convenient commutes
- Reasonable cost of living
- Ongoing education and training opportunities
- Perceived value for taxes paid; quality and scope of services and infrastructure

Missouri is generally very strong on these sorts of measures, although we lack the mountains, oceans, and other distinctive geographic features of many other regions. (Our most distinctive geographic amenity is the hills and lakes of the Ozarks region, which supply many recreational opportunities.) Still, Missouri falls short when it comes to attracting and keeping knowledge workers. We must do better – while maintaining

aspects of Missouri's quality of life that serve so many of its people well today.

Indicators of Risk

Middling performance in population growth / migration

- Missouri ranked 24th in the percentage change in the population between 18 and 24 years old in 1999-2000, with a growth rate of 3.1 percent. This rate is actually well in excess of the national average of 0.7 percent, but still places Missouri squarely in the middle of the pack (MQ 2002).
- The state's rank was slightly lower in the percentage change in the population aged 25 to 44 in 1999-2000: at 2.6 percent, Missouri ranked 25th. The state's growth rate lagged behind the national growth rate of 5.5 percent (MQ 2002).
- Missouri received just 0.6 percent of all international immigrants to the U.S. between 2000 and 2001, ranking 24th. 6,368 immigrants moved to Missouri during the year (MQ 2002).
- Between 1990 and 1998, 94,300 people moved to Missouri from other states. This is fewer people than moved to neighboring Arkansas (113,600) and Tennessee (337,600) (Mercedes & Magnolia, 2002).
- In domestic migration between 2000 and 2001, Missouri lost a net total of 142 people to other states over the course of the year for a rank of 24th. The state's loss was the most modest loss of any losing state, but it was a loss nonetheless (MQ 2002).

Strong on many measures: strengths to build on

- Missouri ranked 31st in the average value of new housing units at \$112,260 in 2001. The national average is \$120,029 (MQ, 2002).
- Missouri ranked 21st in the number of acres in parks and natural areas and 12th in the number of visitors to its parks and natural recreation areas (The National Association of State Park Directors, 2002).
- Missouri ranked 37th (14th lowest) in the state cost of living index with 0.929, versus the national index of 1.000 (MQ, 2002).
- Missouri ranked 16th in crime rate (MQ, 2002).
- Missouri ranked 12th in the rate of homeownership at 74.0 percent. The national rate is 67.8 percent (MQ, 2002).
- Missouri ranked 34th in poverty rate with 10.4 percent of its people living in poverty. This rate is considerably better than the national percentage of 11.9 (MQ, 2002).

4. **Research Capacity**

Missouri must be committed to the creation of new ideas and technologies and encourage their application in businesses. New

technologies and processes must be infused into all industries, in both new and existing businesses. Primary action must be taken by the private sector, but the state will play a vital supporting role.

Technology transforms aspects of our lives almost daily. Businesses need to look continuously for ways that technology can improve – on an incremental or revolutionary basis – how they perform their functions. Missouri businesses must do this because it is what other businesses will be doing.

Missouri can help by supporting the development and dispersion of the new ideas that will help businesses compete effectively. Facilitating technology transfer is vital for strengthening existing businesses and promoting entrepreneurial activity. This means a greater investment in the state's research capacity – primarily in its universities, but also through incentives to encourage private research and development. It also means supporting the development of an adequate venture capital pool in Missouri, as noted earlier.

Indicators of Risk

Shallow talent pool

- The number of engineering degrees granted in Missouri decreased 0.2 percent between 1995 and 2000 (CyberEducation 2002).
- Missouri's pool of scientists and engineers, measured as the number of scientists and engineers as a percentage of all jobs, ranks just 31st among the states (Progressive Policy Institute).
- Missouri ranked 19th in the number of high-tech workers according to Cyberstates (2002), but just 29th in high tech jobs according to the 2002 State New Economy Index.

Not enough money for Research & Development (R&D)

- The rate of investment in R&D in Missouri is far below the national average in terms of dollars per \$1,000 of gross state product. Industry-performed R&D expenditures amount to \$8.14 per \$1,000 of gross state product, less than half the national rate of \$19.13. The difference is even greater for federally funded R&D expenditures: \$0.28 per \$1,000 of gross state product versus \$1.67 in the nation as a whole. The only bright spot in this picture is university-performed R&D expenditures, which, at \$3.23 per \$1,000 of gross state product, slightly exceed the national average of \$2.94 (Southern Growth Policy Board, 2002).
- Missouri ranked 25th in research and development expenditures in 1999 (Cyberstates 2002). For industry investment in R&D, Missouri's

ranking is lower: 29th in R&D as a percent of gross state product (2002 State New Economy Index).

- Missouri ranked 17th in venture capital investments, but venture capital investments declined in the state by 55 percent between 2000 and 2001, falling from \$756 million to \$339 million (Cyberstates 2002). The 2002 New State Economy Index again offers a lower ranking for venture capital: 25th for venture capital as a percent of gross state product.
- Missouri produced nine percent fewer utility patents in 2000 than in 1998 and 10 percent fewer utility patents in 2001 than in 1999 (US Patent and Trademark Office). The state's overall ranking for patents per 1,000 workers is 34th (2002 State New Economy Index).
- In Missouri, only 57 patents were issued per 10,000 business establishments – less than half the national average of 122 (Southern Growth Policy Board, 2002).

5. *Infrastructure*

Missouri must maintain and upgrade its physical infrastructure, including especially transportation infrastructure and information technology infrastructure.

The ability to move goods, materials, and people efficiently and economically will continue to be important in the new economy. The states that are most successful in their transportation infrastructure investments will determine the areas of greatest impact in coming years and focus their limited resources in those areas – and will not be tied to old plans and concepts from the “old” economy.

Missouri's central location makes it accessible from all parts of the nation. Our transportation infrastructure must be adequate to meet the potential this location creates. Multi-modal passenger and goods transfer (highway, air, river, rail) and passenger transit systems must share the stage and the budget with highway investments, just as maintenance and replacement of older facilities must be balanced with new investments.

Equally important is the state's information technology infrastructure. The “digital age” relies on new networks and connections. New industries will not develop here without the information technology they need to compete. Furthermore, the capacity for old industries to join the new economy will depend on having the networks in place for them when they are ready.

Finally, the economic development impact on areas that receive infrastructure investments must be assessed: will the local benefits create

new value for the state as a whole, or merely shift benefits from other parts of the state? Investments should be planned to advance economic development objectives.

Indicators of Risk

Progress on technology

- Missouri is making progress in linking businesses and people to the Internet, but the state is far from the head of the pack. 57.3 percent of the population is online, which places Missouri in 20th place for this category (the national rate is 53.9 percent). While 86.0 percent of manufacturers use the Internet (rank of 24th), and Missouri ranks 27th in terms of farmers using the Internet for their businesses, Missouri falls short of the national rates for both of these categories (2002 State New Economy Index).
- The percentage of schools with a direct connection to the Internet has increased from 68 percent in 1998 to 89 percent in 2000. Missouri ranks ninth for technology in schools (2002 State New Economy Index). 97 percent of schools had access to the Internet in 2000, up from 91 percent in 1998. Of these schools, 22 percent have one or more dial-up links to the Internet.
- Missouri lags behind the nation, however, in the percentage of zip codes with broadband providers: 53 percent of zip codes are served, versus 75 percent on average nationwide (Southern Growth Policy Board, 2002). The state ranks 29th in terms of its infrastructure for broadband communications (2002 State New Economy Index).

Roads in poor condition

- Missouri ranked 13th in per capita federal highway funds in 2002 and 23rd in percentage of public road and street mileage federally funded in 2000, with 24.7 percent of roads federally funded (MQ 2002). However, the state still ranked 8th in deficient bridges as a percentage of total bridges (37.4 percent) (MQ 2002) and 3rd worst in the nation for roads (The Road Information Program⁸).
- Missouri ranked 18th in highway fatality rate with a rate of 1.7 fatalities per 100 million vehicle miles traveled (MQ 2002).

6. **Tax Structure**

Missouri residents pay less in taxes and fees (including state and local taxes) as a percentage of their personal income than do residents in most other states. At the same time, the Hancock Amendment, as it currently stands, effectively ties the hands of the state in terms of its

⁸ See <http://www.tripnet.org/MissouriStudyJul2002.PDF>.

revenue collection, locking Missouri into very low taxes relative to other states. It also, as the current budget crisis highlights, makes it impossible for Missouri to set money aside during good years as a hedge against the inevitable bad ones.

This limitation has given rise to a long list of tax credits, which essentially allows the state to spend money that it hasn't collected. Unfortunately, however, this solution has created a crazy quilt of programs that are difficult to manage, and even more difficult to assess in terms of their costs and benefits.

Over the past four years, total general revenue growth in Missouri was only \$179.9 million. In the previous four years, total Hancock Amendment refunds totaled \$973 million, with permanent tax cuts of \$921 million.

Missouri's tax structure needs to be evaluated from top to bottom, and restructured to enable Missouri to accomplish its goals more effectively. Under current structure, the state's revenues will probably continue to be inadequate for all of the programs it wants – even once the current economic downturn passes. We are currently structured as a low tax and low service state, which limits Missouri's ability to prepare for the future and compete effectively for labor and capital investment. Missouri must find more dollars for the economic development priorities outlined here. Missouri's tax structure must be addressed if Missouri is to advance rather than fall behind in the new economy. Just as important – and related – the state must address this issue in order to ensure an adequate and increasing quality of life for its people.

Indicators of Risk

Low taxes, low services

- Total state and local government expenditures per person in Missouri in 1999 were lower than in all but three other states (South Dakota, Oklahoma, and Arkansas). At \$4,862 per person, Missouri spending is 18.5 percent lower than the national average of \$5,963 (MQ 2002).
- Missouri ranks slightly higher – 42nd – in total state and local government revenue. Missouri collected \$5,479 per person in 1999, versus \$6,581 for the nation as a whole – a difference of nearly 17 percent (MQ 2002).
- As a percentage of personal income in 1999, state and local government tax revenue ranked 40th, at 9.8 percent of personal income versus 10.5 percent nationally (MQ 2002).

RECOMMENDED PRIORITIES FOR MISSOURI

So, what needs to happen now? The previous sections of this report have looked at the situation in Missouri as it stands and considered the possible outcomes of continued complacency and inaction. This section draws on that analysis and sets forth an outline of recommended priorities that, if adopted, will enable Missouri to achieve a different, brighter future.

Missouri is in the position to move forward if the various constituencies of the state can come together to act. These priority areas should guide state programs and the state's interaction with local entities. Note, however, that the recommendations here are not a final analysis, nor a detailed work program, nor a proposal for new legislation; rather, they identify the areas of emphasis that will lead Missouri in the direction of prosperity in the new economy.

The priority areas and actions are:

1. Build a 21st Century Economy
2. Increase Investment in Education and Workforce Development
3. Promote Better Communication and Coordination of State Economic Advantages, Progress, and Opportunities
4. Encourage Balanced Growth and Investment in Communities
5. Refine Tools and Resources for Economic Development
6. Preserve and Strengthen High Quality of Life

1. *Build A 21st Century Economy.*

Missouri must focus resources on speeding the transition to an economy that rapidly capitalizes on technology advances in all businesses and industry sectors. New ideas about markets, products, services and processes must be sorted and translated into more efficient and productive activities.

While the vast majority of choices to be made are those of the private sector, state government can be a very important and effective facilitator – encouraging, communicating, and underwriting steps to introduce new technologies in the interest of accelerated change.

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In a 21st century economy, information, ideas, and technology are as important as physical assets. Change is more rapid, and state programs should be designed to help businesses – new and emerging – and people to adapt and prosper in an evolving world.

- **Target new technologies and industries for accelerated growth.** Education and workforce development, research and development, new business development, infrastructure investment, marketing, and economic development tools and resources may all have a component geared toward cutting edge businesses and their underlying technologies.

Businesses that generate key new technologies have tremendous growth potential in the state of Missouri and should receive particular attention. The new technologies and their businesses with the greatest promise for significant statewide advancement as a result of the state's existing business and institutional resources include:

Plant and Life Sciences
Advanced Manufacturing
Information Technologies

Additional industry clusters have great promise in specific regions within the state, and the state should assist regions in identifying and capitalizing on these opportunities.

The primary objective of this strategy is not to “pick winners and losers.” Rather it is to focus attention and resources on businesses that directly advance these emerging technologies in order to create and attract new businesses that will grow and produce high paying, high skill jobs and lead the state as part of the new economy. Equally important, however, is the role that these new technologies can play in enhancing the competitiveness of a wide swath of other Missouri businesses relative to their counterparts in other states and regions. The position and productiveness of other traditional “mainstays” of the Missouri economy can and should be enhanced through the wide diffusion of technological advances and ever improving education and workforce training initiatives.

The Missouri Technology Corporation, an existing public-private partnership, would be an effective mechanism to implement this strategy.

- **Strengthen the state's traditional “mainstay” business sectors.** While it is important to give high priority to the creation, expansion and attraction of businesses that are at the cutting edge of the new

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technologies, the state must at the same time maintain supportive programs and avoid unnecessary regulatory impediments to growth and competitive change within businesses that represent its traditional economic base. Most notable among these are:

Tourism
Finance and banking
Agriculture
Traditional manufacturing

Important to strengthening the state's traditional mainstays will be the redesign of state programs to assist Missouri businesses. This effort would include (a) changing criteria for granting fiscal incentives to go beyond basic measures such as new job creation toward "new economy" measures – enhanced productivity, high wage jobs, etc., and (b) instituting measures to promote the adoption of new technologies across all industries.

- **Develop a set of strategies and tools to support global business in Missouri.** The state can both assist Missouri businesses in expanding their reach to new markets and create an environment that is attractive to international businesses seeking locations in the U.S. The three basic challenges in responding to globalization are positioning Missouri in a global market, promoting global activity by small and medium-sized companies in the state, and promoting global trade for mature or at-risk industries.⁹ The state should adopt a comprehensive approach to meet these challenges, including relationship-building, marketing and market development, and industry support, as well as direct incentives.
- **Sponsor industry cluster consortia.** State government is in a unique position to build bridges across the different regions of the state by fostering an array of ongoing consortia of businesses, university resources and economic development professionals with common interests in different business sectors or industries. These consortia can (a) facilitate the exchange of ideas, information, and new technologies among researchers, existing businesses and entrepreneurs, (b) identify the most promising technologies for future business development within the industry, (c) strengthen links between companies and potential investors and federal funding opportunities in target industries and technologies, and (d) identify education and training curriculum needs within targeted industries.

⁹ National Governors Association, A Governor's Guide to Trade and Global Competitiveness. 2002.

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The state should consider implementing a process and resources to develop these relationships.

- **Expand support for the state’s research universities and specialized research institutions.** Increased state funding for research is a necessary element in building a competitive 21st century economy for Missouri. However, this support should be tied to a clear set of objectives designed to enhance economic development, including:
 - (a) Advancing the competitiveness of state businesses, especially those representing targeted technologies;
 - (b) Facilitating the broad diffusion of technologies that increase the productivity of a wide spectrum of state businesses (i.e., technology transfer and commercialization); and
 - (c) Increasing the stature and ability of universities or other research institutions to attract research funding from other sources and achieve greater dominance in a specific research field with the potential to foster technology transfer and business growth in the state.

These and other criteria for state support of research should not, however, interfere with the discovery process or attempt to dictate specific research agendas. The abovementioned industry consortia will provide vital information regarding the crucial areas of investment for the state.

In addition to direct support of university and institution-based research, the state should offer incentives to businesses for R&D activities, both internal and contracted through the universities. It should also explore other ways to support new technology development and commercialization such as investing a portion of state pension funds and targeting additional tax credits in support of research.

- **Maintain a basic “Retention First” strategy – businesses and jobs.** This approach makes sense both philosophically and economically. If the state concentrates on those actions necessary to keep its current businesses here it will also be addressing many of the factors necessary to attract new businesses to Missouri. As part of this approach, the state should explore more effective ways to assist small businesses and disadvantaged businesses with training, links to capital, and other technical assistance areas. *Note that this recommendation does not necessarily call for direct financial incentives for existing businesses, but rather for maintaining a responsive environment and understanding business needs that the state may help to meet.*

- **Provide support for business start-up and growth.** The new economy provides tremendous opportunities for new businesses, and Missouri should work to promote and capture that growth within the state. The areas where state support and engagement are important to building an “entrepreneurial culture” and nurturing business start-ups include:
 - (a) Capital development (pre-seed, seed and venture capital, bank consortia, networks linking capital with entrepreneurs)
 - (b) Technology transfer (discussed above)
 - (c) Business incubators, training, and technical assistance for entrepreneurs and small businesses (through the state’s Innovation Centers and the Missouri Small Business Network).

2. Increase investment in education and workforce development.

Human and intellectual capital is a key element of the new economy. The basic skills achieved in primary and secondary schools provide the foundation for all future learning, whether in vocational programs, universities, or employment settings.

Better trained people – as indicated by basic measures of educational achievement, such as performance on standardized tests, proportion with high school degrees, college degrees and advanced degrees, specialized training, etc. – lead to greater incomes, wealth and quality of life for all of the state’s residents. This greater prosperity, in turn, increases the depth and diversity of state and local tax bases and their ability to fund quality services and infrastructure.

And so the circle closes – economic progress depends on steadily improving educational performance, and vice versa.

It virtually goes without saying, but there is nothing more important in a knowledge-based economy than people. Education and workforce development are probably the most important pieces in a 21st century economic development strategy. Missouri must invest in its people – and enhance the opportunities for people to invest in themselves.

- **Focus on raising the bar for all levels of education in the state.** Greater financial support, better utilization of resources and more effective measures of progress need to be directed to improving education in Missouri across the board – from basic math and science

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training in K-12 through sophisticated research and development capacity at the state's institutions of higher learning. Further, Missouri should help link people with jobs in growing industries, starting with career-oriented opportunities in K-12 and continuing with flexible training for adults in transition. Without these programs, companies and talented individuals will migrate elsewhere to participate in the new economy. Therefore, Missouri should implement the following recommendations:

(a) Increase the level of state funding for the universities.

Missouri's institutions of higher education do not have the resources to achieve the excellence in education and research that is so necessary to drive a competitive, steadily improving state economy. Rising tuitions, inadequate financial aid funds, and resource shortages that deter the best faculty from coming and staying create a less desirable system for Missouri's top students.

Increased funding for higher education is required to ensure that (a) all eligible Missouri students can afford to participate; (b) high quality faculty can be attracted and retained; (c) the "best and the brightest" students from Missouri as well from out of state can be attracted to Missouri institutions and stay in the state after graduation; and (d) the state's research institutions can help fuel a high tech economy.

(b) Maintain Missouri's commitment to improving K-12 education. Missouri has taken a strong stance on education in the recent budget crisis. This commitment to foundation funding, along with ongoing efforts to improve the math and science programs in public schools, is absolutely vital to the future of Missouri's economy.

Missouri should work harder to help ailing school districts in rural and urban areas – school systems that consistently underperform. These schools are charged with teaching Missouri's most vulnerable students – those from impoverished families, those who are the most disconnected from the new economy. The schools often have less qualified teachers and inadequate facilities, and, in some cases, are poorly served by their bureaucratic and politicized management. Missouri should step up its efforts to raise the quality of its weakest schools.

(c) Re-evaluate the structure of the coordinating board. The state's coordinating board for higher education should serve statewide needs and reinforce Missouri's economic objectives.

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It must ensure the quality of the entire higher education system, not merely look after the interests of individual institutions. If, in its current configuration, the coordinating board does not really coordinate, then its ability to fill this critical system-wide role is impaired. The state should re-evaluate this structure and explore more effective mechanisms for statewide coordination.

- **Strengthen workforce development programs.** Workforce development is a critical component of economic development and must receive priority with the state's economic development strategy. Two interdependent skill sets underlie knowledge-based economy: knowledge generation and knowledge deployment. Knowledge generation "is contingent upon highly educated and skilled creative people at the pinnacle of the skill continuum." Knowledge deployment, on the other hand, "requires widely held quality skills and education in the middle of the skill distribution."¹⁰ Missouri needs more than just the top scientists and thinkers to succeed in the new economy; the state needs its entire workforce to be skilled and adaptable.

Workforce development should occur throughout the educational system – not just in segregated vocational programs. Among the steps that Missouri should take:

- (a) Improve policy and service coordination among the various entities with a role in workforce development to increase the system's effectiveness, including enhanced performance of the "one-stop" career center system.
- (b) Provide technical assistance to regional Workforce Investment Boards to strengthen their role in providing employment and training services to Missourians and developing regional workforce systems.
- (c) Enhance the inclusion of real career information and skills into K-12 and community college curricula, working with the business community to identify critical skills, including both specific industry skills (for life sciences, for example) and more general "life skills." Career-oriented education would include internships and real world experiences with business as well as traditional classroom work.
- (d) Strengthen programs to support employer-led training programs, including training support and financial incentives.
- (e) Actively market the array of educational and lifelong training opportunities in Missouri.

¹⁰ Knowledge-Value Cities in the Digital Age – The Milken Institute (2-13-2001) (vi-vii)

3. Promote Better Communication and Coordination of State Economic Advantages, Progress, and Opportunities.

Missouri has a great deal to offer businesses and residents today, and is positioned for even greater opportunities in the future. Its assets and achievements need to be effectively communicated both at home and beyond.

At the same time, the state is composed of a complex array of urban and rural regions that have distinct economic characteristics and potentials. While these differences need to be cultivated – in the same way the players on a sports team need to hone their specialized roles to contribute to a winning team performance – effective communication between regions is often lacking. Such communication could foster understanding and appreciation of differences and needs while avoiding petty and unproductive competition between different parts of the state.

The key objectives of improved communications are to market better the state's many strengths and economic development programs, both inside and outside Missouri, and build on current strengths and programs by establishing partnerships and tools designed to enhance information sharing and development of new ideas and working relationships that increase the state's prosperity.

▪ **Aggressively market and advertise the state's resources and assets.**

The state has maintained well-respected marketing and advertising programs as key components of its economic development strategy. These programs have largely been targeted on the market for conventions and tourism. Less energy and resources have been directed to shaping the image of the state as a place to do business, especially in high tech business sectors and the global arena, and as a desirable place to live. This pattern has begun to change with marketing materials that have recently targeted the state's potential as an important center of the nation's plant and life sciences industry and the BioBelt. Some key themes or considerations that should be emphasized in future advertising and marketing include:

- (a) Innovation and change (counter the "Show Me State" image)
- (b) Choice and diversity, of lifestyle, geography, employment, neighborhoods
- (c) Different regions with different assets, but all part of the whole

(d) Different industries, technology sectors

- **Create and support strategic partnerships for economic development.** Great progress has been made in this direction with the state's efforts to bring together different constituencies with common interests to guide the creation of this Economic Prosperity Initiative. The state brought together representatives of the state's three target technologies and industry sectors as well as regional clusters. This pattern of communication and cooperation needs to be institutionalized and expanded.
- **Foster information sharing – statewide, regional, community, and industry.** Databases, periodic meetings, etc., can help to keep the various elements of the economic development community informed about what interests them, and to share their knowledge with others.
- **Focus on state interagency cooperation and coordination.** Currently, programs that address economic development issues are operated by more than one state department, and may not all be strategically aligned. It is important that Missouri's departments work together to promote a unified strategy for economic development.

4. ***Encourage Balanced Growth and Investment in Communities.***

Economic development and physical development are closely tied to one another. Therefore, an economic development strategy must address physical development issues. The state should look both to investment in infrastructure – primarily information technology and transportation – across Missouri, and to reinvestment in urban areas and historic assets.

Growth cannot occur without the infrastructure to support it, so smart state infrastructure investment decisions are fundamental to realizing the state's economic development potential.

- **Balance infrastructure investment in rural and urban areas.** The sometimes-contentious divisions between Missouri's rural and urban areas have created a poor environment for balanced investment. If Missouri cannot invest to ensure the continuing health of both its rural and urban areas, it will not take its place in the new economy. While key infrastructure exists in the urban core of, for example, Kansas City or Springfield (roads, water, sewer, other utilities), it may not be in adequate condition or have the necessary capacity to support reinvestment in infill and redevelopment. Rural areas are often far

behind in information technology infrastructure and, in some cases, struggle to establish the basic systems for their growing communities.

State infrastructure investments have a dramatic impact on where and when growth occurs. Missouri should be mindful of these impacts when making investment decisions, and ensure that those investments serve economic development objectives for the state as a whole.

- **Work closely with regional coalitions to establish priorities.** Local priorities for infrastructure investment differ dramatically. The state should work with regional coalitions to identify the most effective areas for state investment in transportation, information technology, and other basic services. If the regional leadership is not organized or effective, Missouri should start by helping to build effective regional coalitions in all parts of the state, ensuring that regional coalitions represent the full range of interests in the region (e.g., urban to rural).
- **Invest in information technology infrastructure.** Infrastructure to enable telecommunications access is essential for economic growth. In particular, rural areas and schools need assistance from the state to secure high-speed connectivity. Missouri should continue to invest in information technology infrastructure throughout the state (e.g., telecommunications, high speed lines, DSL, digital infrastructure, wireless communications).
- **Establish a broad strategy for investment in transportation infrastructure.** Missouri lacks a comprehensive strategy for its transportation infrastructure that considers investments in new roads along with maintenance and replacement of old systems, investments in appropriate transit systems, and multi-modal connections. A realistic strategy is necessary for economic development, because it will determine in large measure the direction of future growth.
 - (a) Roads and highways have historically dominated Missouri's transportation efforts, and will continue to receive the lion's share of state investment. A comprehensive transportation strategy should consider the following issues related to roads and highways: consider the legacy of the 15-year plan and realistically assess its current usefulness; preserve interstates; and prioritize road construction and maintenance in regions based on local input.
 - (b) The transportation infrastructure strategy should ensure that adequate funds are earmarked for: replacement and maintenance of existing facilities and capacity, as well as new construction of transportation infrastructure; transit investments where

appropriate; and multi-modal passenger and goods transfer in regions (highway, rail, air, river).

5. ***Refine Tools and Resources for Economic Development.***

Missouri has an extensive array of tools and resources for economic development – financial incentives, investment programs, training programs, and more. These state programs are the most visible aspect of state economic development policy and, if refined as part of a larger economic development strategy, can be extremely effective in directing the economic course of the state.

Before the state can provide financial incentives and support to economic development efforts, however, it must have the funds to do so. The first step for Missouri must be a comprehensive review of the state's overall taxing structure. This imperative goes well beyond economic development goals to extend to all aspects of state government and services and Missouri's prosperity in years to come.

Tools and resources allow the state to influence the economic direction of the state by encouraging certain types of investment through the use of financial incentives and creating the conditions to support business development and growth through targeted direct investment by the state itself.

- **Establish a special commission charged with recommending reform of Missouri's tax structure.** The first step for Missouri to pursue relative to effective tools and resources for economic development should be the comprehensive reform of the state's tax structure. It would seem this process should be shaped and led by a specially formulated advisory commission – advisory to the legislature and governor. We cannot recommend economic development investment programs without addressing the shortage of revenues to support all state objectives. **The state simply cannot compete in the new economy unless it leaves the ranks of the low-cost, low-service states.** In addition to targeting strategies to increase revenues to fund competitive programs and infrastructure, tax reform must consider carefully issues of fairness, distributive effects, and perceived value received by the various classes of taxpayers – primarily residents and businesses.

As part of this comprehensive review, the committee would look to both revenue sources and spending programs – including economic

development tools and resources such as:

- (a) Cost-effective tax credit programs. Missouri needs to evaluate and refine its current tax credit programs to ensure they are generating the desired benefits.
 - (b) State investment in venture and seed capital. Even a small portion of the state's pension fund invested in venture and seed capital could provide an enormous boost to emerging companies in Missouri. However, any such initiatives should proceed cautiously with professional, objective and non-political underwriting of targeted investments.
 - (c) Redevelopment incentives and tools. Missouri already has powerful tools to promote redevelopment through Chapter 99 and Chapter 353 of the state's statutes. The state should look at how these tools have been applied and explore new ways to promote redevelopment.
- **Establish state-regional partnerships for economic development.** To capitalize on the different strengths of Missouri's distinct regions, the state should direct its programs through partnerships with the local leadership of each region. Each region should have its own strategy. Collectively, the regional strategies should build a larger state strategy for economic development, one where the whole is greater than the parts.

Working with the regions, the state should also help to identify new and refine existing local redevelopment tools and incentives in order to support regional objectives.

6. *Preserve and Strengthen High Quality of Life.*

Missouri has tremendous advantages to tout in the area of quality of life, but continuing improvement through ongoing investment is vital – especially in order to attract and retain the foundation for the new economy: knowledge workers and the companies that employ them. Through direct investment and financial incentives, Missouri should help local communities enhance the quality of life for their residents. Each community – rural, suburban, and urban – has distinctive advantages, unique qualities and special opportunities to be preserved, strengthened and built upon. Together they offer the state's residents diverse lifestyles. The state can help raise the quality of experience as well as communicate the choices available in its communities.

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Investment in the quality of life for residents is an essential economic development activity. If the state does not offer high quality of life, residents and businesses will choose to locate elsewhere and other economic development efforts will be severely hampered.

- **Affordable housing investment.** Affordable, quality housing is essential in all communities. Overall, Missouri does well in this category, although there are often pockets where choices are limited and intervention to encourage investment to widen those choices can be helpful.
- **Youth programs.** Positive activities and outlets for youth improve the quality of life for the entire community, while helping youth prepare themselves for their futures.
- **Historic preservation.** Missouri has a valuable legacy in its historic structures, neighborhoods and business districts. In both rural and urban areas, these buildings and places from another era enhance the quality of living, working and visiting our communities. They also add distinctiveness at a time when much of the nation's newer development looks numbingly the same. Missouri should continue to promote the preservation of these assets while still making room for new investment in buildings and places that reflect the best of contemporary design and planning.
- **Investing in redevelopment and downtown business districts.** As with historic structures, the traditional downtowns across Missouri provide an alternative to the sameness of new shopping centers and office parks, as well as anchoring communities around their traditional centers. They also offer places to live for those who prefer an urban life style. However, Main Street needs help to compete with newer developments, and Missouri should provide support to communities that want to keep their centers intact. The state can also help in the decisions it makes by giving priority to the location of its own facilities within the downtown business districts.
- **Conservation activities to preserve the natural environment.** Missouri has a heritage of fine state parks and support for broad programs of natural resource protection. However, these resources have been traditionally deployed almost exclusively in rural environs rather than within or at the fringe of growing metropolitan areas. Consideration should be given to establishing large natural preserves strategically positioned so that they can eventually be incorporated into the fabric of future suburban growth. We need not look further than Chicago to understand how such a policy can enhance the quality of life of the residents of metropolitan areas.

- **Cultural institutions and recreational amenities.** Civic, cultural, and recreational amenities are key elements of quality of life. Missouri should give priority to assisting communities in maintaining their existing assets and developing new cultural and recreational amenities.
- **Ensure adequate public resources to support quality public services and facilities.**

In the final analysis, much of what is termed “quality of life” derives from the willingness of state and local government to support quality public services and facilities. It is easy to say that the question involves more than money – and clearly it does. However, continued low levels of funding simply cannot be offset by better and creative management of available resources. Mediocrity, at best, will be guaranteed and state competitiveness compromised. This applies especially to the question of education both K-12 and in the state’s colleges and universities. Certainly it extends to the challenge of critical public infrastructure as well as to important amenities such as parks and recreation facilities and programs.

MISSOURI CAN DO IT

The strategy to achieve economic prosperity outlined here includes many pieces, some of which will take substantial effort to implement. Success, in both the short-term and the long-term, will depend on the coming together of legislators, of various state departments with different charges, of sectors of the economy, and of the state's regions. It will not be easy.

The good news is that the picture of Missouri's economic decline that was invoked in the beginning of this report is by no means inevitable. Indeed, the tools we need to change this direction can essentially be created from the resources we have today – in spite of budget problems. What Missouri needs now are leadership, a clear vision, and a positive commitment to change.

The priorities for economic prosperity presented in this report are comprehensive, and more than can reasonably be expected to be implemented in a short timeframe. However, **it is imperative that Missouri take its first steps down this path.** We cannot look for wholesale change all at once, but we must push for a realistic set of immediate actions to start moving in the right direction – keeping in sight the longer-term vision.

First Steps

Where to begin? The actions with the most broad-ranging impacts are those that will help to grow Missouri's knowledge-based economy – such as the state's initiatives to promote new technologies such as the life sciences, advanced manufacturing, and information technology; to infuse new technology into existing businesses and industries; and to build the state's cadre of knowledge workers through investments in education and quality of life. The knowledge-based economy will be the key to future growth, and strengthening the foundations on which this economy can flourish should be the first thrust of economic prosperity efforts.

Therefore, the state's ongoing commitment to education is right on target. The economic challenge, then, will be to build on these efforts and extend them. With better links to business, industry, and the state's many distinct regions, knowledge gains will flow through all parts of the economy and the state.

Each of the state's regions will have a unique role to play in these efforts. Like members of a sports team, each region has different skills and must do a different job. The key is to recognize what each region does well, then find the best way to put those specialties to work for the team.

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Missouri is competing with the world outside its borders – other states and other nations. We need to field all of our players in the right positions if we want to win the game.

There are three major areas of focus that we recommend for **immediate actions**. All three represent overriding, long-term goals to which Missouri can and should commit with short-term objectives. The three areas are:

1. Creating Quality Jobs and Competitive Workers
2. Ensuring Business Competitiveness and Sustained Economic Growth
3. Increasing Competitiveness of Urban and Rural Communities

Combined, these three emphases will set Missouri on the road to economic prosperity and a high quality of life for all Missourians.

Quality Jobs and Competitive Workers

There are a number of actions that Missouri can take now to help create good jobs and ensure that Missouri workers are prepared for these opportunities. The key areas are:

- Create better links for students between higher education and growth industries, and a clearer vision of higher education's role in the economy.
- Develop improved strategies to increase essential skills and knowledge and provide information on career opportunities for all workers, including those with barriers to work.
- Establish increased accountability for state programs to create jobs, so that credits and incentives “get what they've paid for.”

Business Competitiveness and Sustained Economic Growth

The state can act on several fronts to increase the competitiveness of Missouri businesses and help Missouri's regions to build knowledge-based economies. The state can work to develop:

- An improved business environment, including corporate tax reductions and greater support to small businesses.
- Better coordination of research and support for life sciences and other high-tech commercialization capacity, drawing together universities (public and private), the private sector, and government.
- A focus on regions as economic entities, supported by cluster research to identify key opportunities in the state.
- Reformed and refocused business tax credits to produce better jobs and growth and make more funds available to support knowledge economy initiatives.

Competitiveness of Urban and Rural Communities

As Missouri embraces a region-oriented approach to economic prosperity, it will be able to develop more effective programs to assist different regions with very different economic challenges and opportunities. Ideally, Missouri will develop visions of progress for each of Missouri's regions and statewide recognition of each region's distinct contributions and opportunities. Among the immediate actions the state can take:

- Work with regions to identify new opportunities for community and regional growth, and organize state programs to support regions.
- Improve tax credit programs to achieve targeted economic outcomes more efficiently and effectively.
- Design better state support for rebuilding critical economic infrastructure in older communities.
- Develop better access to capital for agribusinesses.

The Tools At Hand

Missouri's tradition of strong stability and high quality of life indicate that the state has what it takes to meet this challenge. Missouri is a great state in which to live and work, and Missourians have the strength and tenacity to keep it that way – as long as they see the need to act. Success will rest on the concerted efforts of all Missourians – public officials, business and civic leaders, educators, and individual workers and residents.

The most fundamental pieces will be:

- Shared commitment to a common course and set of strategies to achieve economic prosperity in the state;
- Recognition and celebration of the distinctiveness of regions and the roles they can play;
- A tax structure to support Missouri's goals;
- Pride in the state and optimism for its future; and
- **Leaders that will come together to govern.**

While some of these elements are long-term visions (tax structure reform, for example, will require a concerted effort over an extended period of time), others are achievable here and now. The first step toward economic prosperity will be to commit to incremental actions that can be accomplished with available resources. This approach will lay the groundwork for more difficult changes in the years ahead.

Preparing for the Future

This report has outlined some of the significant obstacles that Missouri must overcome in order to achieve economic prosperity in the years and

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decades to come. **These obstacles should be seen not as a deterrent to action, but as a challenge.** Understanding the state's needs is the first step to taking positive action to address them. And that action must start now. The best chance we have to set a course in a different direction – one toward prosperity for Missouri – could be the one that we have today.

Perhaps the **most important tool that we bring to this effort is attitude** – more important even than financial resources. If we accept that positive change is beyond our reach, then it will be. On the other hand, if we look to the future and believe that we can steer the state in a better direction and overcome our obstacles, then we will accomplish much. By accepting the challenge and believing in a brighter economic future for Missouri, we will ensure that future is realized.

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APPENDIX: Strategies in Selected States

Following is a selection of information that Development Strategies compiled on strategies in three other states – Minnesota, Kentucky, and Ohio – during the development of this report. This listing is by no means complete; it merely presents some of the key elements of these states' efforts related to economic development strategy.

MINNESOTA

Efforts

- Working Group on Minnesota's Economy – approximately 20 leaders from public and private sectors
 - Produced a report, "Building a Knowledge Economy for Minnesota's 21st Century: A Report to the People of Minnesota" (December 2000)
 - Vision: A resilient and growing economy fueled by a virtuous cycle of innovation, entrepreneurship and workforce talent that enables industries to create opportunities and return wealth to their owners, workers, and communities throughout the state
 - Critical success factors
 - A strategy to build a knowledge economy for Minnesota's 21st century: maintain the vitality of existing industries (e.g., finance, printing/publishing, precision manufacturing and transportation) and build on Minnesota's emerging industry clusters.
 1. Create an environment in which public-private partnerships enhance and advance a knowledge-driven industry cluster strategy that maintains the vitality of existing industries and builds on Minnesota's emerging industry clusters, especially:
 - Health care – particularly medical technology
 - Biosciences – especially applications in agriculture
 - Communications and information technology – particularly storage technology and data communications
 2. Align public and private programs and activities to support knowledge-driven industry cluster strategy
 - Workforce as our #1 advantage: build talent for the 21st century

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1. Use scholarships as a talent magnet to attract and keep the best and brightest young people
2. Align education and training systems to meet industry needs and to increase wages and career opportunities at all levels
- Top-ranked innovation and knowledge capacity: build critical mass and enhance research and innovation in significant industry clusters
 1. Strengthen University of Minnesota as the state's flagship research institution and align its programs with business and technology opportunities
 2. Support innovation through industry-led research and development and commercialization of technologies
 3. Spread access to and availability of knowledge – through education, training and technical assistance – throughout the state. Focus on linking diverse populations, entrepreneurs and small businesses to industry clusters in rural and inner-city communities.
- A positive climate for business success: support entrepreneurship and business growth
- Create favorable tax climate for business start-up, growth and success while maintaining a well educated, highly skilled, diverse workforce
- Develop a state economic development policy and coordinated strategies that encourage businesses to expand and locate in Minnesota
 - A leadership coalition as a vehicle to guide implementation
- Create a coalition of public and private institutions to guide implementation of this strategy
 - Call for “leadership response from private business, the state's education institutions, the legislature, and the executive branch;” no expectation of significant increase in state funding.
 - “What is at risk? . . . our position in the future relative to other places, the loss of our young people and the resulting inability to sustain our values and quality of life.”
- Five critical success factors
 - Knowledge-driven industry cluster strategy:
 - Health care
 - Biosciences
 - Communications

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- Competitive workforce for the 21st century
- Top-ranked research and innovation capacity
- Positive business climate to support entrepreneurship and business growth
- Enduring leadership coalition
- Local leadership motivated to take action on technology issues – not just in Twin Cities
 - “Imagine the power of a model where industry took more of the lead in deciding what the state needed in order to become more competitive, came up with solutions and then partnered with the public sector to get them accomplished. If we can do that, Minnesota's future will be brighter than ever.” (Koppel, Sept –Oct. 2001)
- Ventura’s “Big Plan” (2000) identified six initiatives to make Minnesota a “world competitor:”
 - Trade: tapping the world’s interest in Minnesota
 - Developing the workforce of tomorrow
 - Improving the competitive position of rural Minnesota
 - Creating the best climate to grow a business
 - Commercialization of new technologies
 - Jesse “the tourism governor”: promoting Minnesota, promoting the industry
- The Humphrey Institute developed a statewide industry clusters strategy in January 1999:
 - Information technology
 - Agricultural chemical application
- Joint report of Minnesota High Tech Association and Minnesota Technology, Inc. in September 2000 outlines state science and technology initiatives for 1999 to 2000 for all states

Background on Economy

- Diversified – not over-reliant on dot-coms and telecom industry in New Economy
- A variety of high-tech companies are moving headquarters to Minnesota. Why? Available VC, affordable cost of doing business, larger percentage of high-tech workforce, central location, seen as emerging high-tech hub
- Growth in per capita personal income faster than U.S. average, historically low unemployment

KENTUCKY

Efforts

- Kentucky's Science and Technology developed a strategy document (1998) identifying
 - Factors needed to build an entrepreneurial economy:
 - Schools that infuse innovation throughout the learning enterprise, stress sciences and mathematics, help create an environment that views entrepreneurship as a viable employment option and an alternative to simply “getting a job”
 - Universities that promote the development of new knowledge, ideas, products and firms
 - A range of capital resources required to support new ideas and start-up and growing enterprises
 - Public policies that encourage rather than discourage entrepreneurship, innovation and business expansion
 - The scientific and technological capacity to support the start-up and growth of innovative companies
 - Communities with dynamic local and regional support systems
 - A culture that supports and rewards high-speed innovation and entrepreneurship
 - Underlying weaknesses:
 - An inadequately prepared knowledge workforce
 - An insufficiently developed entrepreneurial culture and capital base
 - A failure to maximize its intellectual capital resources in concert with industry
 - A manufacturing base not taking full advantage of technology for competitiveness
 - Industry focus
 - Electronic commerce
 - Energy and materials science
 - Life sciences
 - Logistics and distribution
 - Nutrition and food technologies
 - Vehicle parts and components

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- Goal: to create an innovation-driven entrepreneurial economy that makes Kentucky an international leader in the development of knowledge and its applications to people, firms and products
- Conditions for success:
 - A critical mass of technology firms
 - Increased federal and industry R&D funds
 - An indigenous risk capital industry in Kentucky
 - Expanded university support and leadership role
 - Joint ventures
- Strategies
 - Enterprise development: create and grow innovation-driven Kentucky enterprises through aggressive support for risk capital and commercialization of research
 - Manufacturing modernization: modernize existing manufacturers in Kentucky
 - Technological infrastructure: build the technological infrastructure (i.e., Kentucky know-how) that is essential to ensuring a competitive Kentucky tomorrow
 - People: ensure that Kentucky education systems prepare highly skilled, knowledgeable graduates (including teachers) with the necessary mathematics and science capabilities for successfully maneuvering in the 21st century knowledge economy
- 10 strategic actions in these four areas
- Kentucky Clusters: Industrial Interdependence and Economic Competitiveness, prepared for Kentucky Science and Technology Corporation in June 2001 by Center for Urban and Regional Studies at UNC-Chapel Hill
- Kentucky Innovation: A Strategic Plan for the New Economy
 - Industries
 - Biosciences
 - Health and development
 - Materials science and advanced manufacturing
 - Environmental energy
 - IT and communications
 - Elements of strategy
 - Transitioning to a knowledge-based economy: regional plans

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- Research and development
- Commercialization: supporting knowledge-based business formation, providing access to capital, creating a high-tech environment
- Workforce development: a seamless system
- R&D vouchers

Four strategies, ten actions

- Enterprise development
 - Authorization of pension fund investments in new ventures
 - Industry R&D vouchers for redemption at KY universities
 - Kentucky commercialization fund
 - Entrepreneurial policy impact audit
- Technological infrastructure
 - Dedicated higher education trust funds
 - Strategic technology capacity initiative
 - Kentucky science and engineering foundations
- Modern manufacturing
 - Statewide manufacturing modernization system
 - Regional technology service corporations
- People
 - Premium compensation for P-12 teachers with degrees in math and science

Focus industries

- Electronic commerce
- Energy and materials science
- Life sciences
- Logistics and distribution
- Nutrition and food technologies
- Vehicle parts and components

OHIO

Efforts

- Third Frontier of Knowledge and Innovation – a ten-year plan announced by the governor in February 2002. Emphasis on “making Ohio a leader in high-tech, high-paying jobs”
 - \$500 million over 10 years through Technology Action Fund and Biomedical Research and Technology Transfer Fund
 - A new, 10-year, \$500 million capital improvement program to improve research facilities; will support Wright Centers of Innovation (Wright Brothers Capital Funds)
 - \$500 million program to provide resources for recruiting world-class researchers and bringing new products to market
 - \$100 million Innovation Ohio Fund to help finance targeted industries. Aimed at helping existing high-growth, high-wage businesses stay competitive
- Ohio Plan Study Committee Report
 - A method to connect Ohio business and industry, Ohio institutions of higher learning, and state government in a partnership to identify research-based economic development opportunities.
 - Intended to promote collaborative efforts among state government, higher education, business and industry
 - Working groups focused on three issues: Funding, Vision, and Commercialization
- Battelle study – economic development strategy recommendations (final, end of April, 2002)
- Thomas Edison Program – 7 technology centers and 10 incubators around the state

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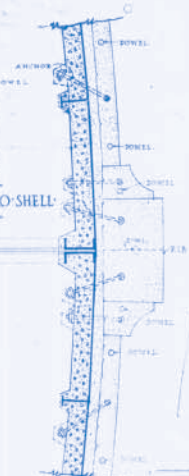
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SECTION DIAGRAM OF STAIRS LEADING TO LANTERN

DEVELOPED
1/8" = 1'-0"

IRON PLATFORM CONTINGENT ON E. HT. OF WINDOWS

START 45'-0" ABOVE END FL.



PLAN OF RIB
1" = 1'-0"
ON LINE X-X.

PLAN THROUGH ATTIC.

PLAN THROUGH
OF LANTERN

PLAN THROUGH CONSOLES
LOOKING UP.

LOOKING UP
PLAN THROUGH COLONADE
LOOKING DOWN.

PLAN THROUGH DRUM

PLAN THROUGH FACIA
OF CORONA ON LINE D-D

PLAN THROUGH FRIEZE

SECTION A-A

MISSOURI STATE CAPITOL JEFFERSON CITY

Project No. 89000	MISSOURI STATE CAPITOL JEFFERSON CITY, MO.
Architect C. G. B.	DOME PLANS ELEVATIONS AND SECTION A-A
Engineer E. F.	TRACY AND SWARTZ ARCHITECTS 200 SOUTH 4TH AVE., ST. LOUIS, MO.